



October 13, 2006

California Regional Water Quality Control Board
Santa Ana Region
3737 Main Street, Suite 500
Riverside, California 92501-3339

ATTENTION: Gerard Thibeault

SUBJECT: **Monitoring and Reporting Program No. 93-58**
AES Huntington Beach, L.L.C.
NPDES No. CA 0001163
Effluent Monitoring Program

In compliance with the subject program, please find the attached Effluent Monitoring Program document as required under Section VI.C.2.c of our NPDES permit Issued August 25, 2006. The document also contains information required under Attachment E, Section IIX.D.4 (Transmittance Monitoring Program) and well as reference to our Storm Water Monitoring Program which has been completed. The Storm Water Monitoring Program documentation and Storm Water Pollution Prevention Plan are being kept on-site.

Please note that the proposed baseline methodology required under Section VI.C.2.e was submitted under separate cover on October 11, 2006.

We look forward to working with you to comply with all conditions of our new NPDES Permit. If you have any questions, please do not hesitate to call me at 714-374-1408.

Sincerely,

A handwritten signature in black ink, appearing to read 'Paul R. Hurt', with a stylized flourish at the end.

Paul R. Hurt, D.Env.
Environmental Manager

Cc: Ken Theisen, e-mail

Enclosure

21730 Newland Street
Huntington Beach, CA 92646
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AES HUNTINGTON BEACH, LLC

Effluent Monitoring Program

***NPDES # CA0001163
RWQCB Order # R8-2006-0011
In Conformance with Attachment E***

Effective

14 October 2006

**AES HUNTINGTON BEACH, LLC
21730 Newland Street
Huntington Beach, CA 92646
(714) 374-1476**

INTRODUCTION

PURPOSE

This Effluent Monitoring Program (MRP) serves as a general or summary description of how AES Huntington Beach, LLC (the facility) will comply with the sampling and monitoring requirements of Attachment E "Monitoring and Reporting Program" of Order No. R8-2006-0011 (NPDES No. CA0001163). Additional detailed procedures or personnel work instructions for sampling may be developed, maintained and implemented by the facility. Specific procedures for laboratory analysis (including analytical QA/QC procedures) are maintained and implemented by the facility's contract laboratory.

I. EFFLUENT MONITORING PROVISIONS - GENERAL

Note regarding laboratory conformance/compliance:

The facility's contract analytical laboratory will be formally notified and required to conform to the following specific effluent monitoring and reporting provisions as applicable. Additionally, a copy of Attachment G will also be provided to the laboratory.

1. All sampling activities and sample preservation methods will be in accordance with the current edition of "Standard Methods for the Examination of Water and Wastewater" (American Public Health Association). Sample containers (pre-preserved, as required) will be provided by the contract laboratory consistent with the specific parameters/contaminants to be analyzed.
2. All samples will be properly labeled and shipped to the commercial laboratory using a written Chain Of Custody form. The Chain Of Custody form will be completely filled out and signed by the person conducting the sampling at the time the samples are collected. Additional signatures on the Chain of Custody form will be obtained as necessary (e.g. as part of the sample transport process). All samples will be refrigerated or packed in ice (which may include 'blue ice' or equivalent), as required, immediately following collection and during transport to the laboratory.
3. All laboratory analyses will be performed in accordance with test procedures under 40 CFR 136 (revised as of May 14, 1999) "Guidelines Establishing Test Procedures for the Analysis of Pollutants," - promulgated by US EPA, unless otherwise specified by the Regional Board in Appendix E of Order No. R8-2006-0011 (and summarized in this MRP. For priority pollutants, the test methods will meet the lowest minimum levels (MLs) specified in Attachment G of Order No. R8-2006-0011. Where no methods/MLs are specified in Attachment G, then monitoring will to be conducted in accordance with methods/MLs approved by the Santa Ana Regional Water Board or

the State Water Board consistent with the State Water Board's Quality Assurance Program. The facility understands that, the Regional Board and/or US EPA, at their discretion, may specify test methods that are more sensitive than those specified in 40 CFR 136.

4. Chemical, bacteriological, and bioassay analyses will be conducted at a laboratory certified for such analyses by the California Department of Health Services or US EPA, or at laboratories approved by the Regional Water Board's Executive Officer.
5. In conformance with 40 CFR 122.45(c), analyses to determine compliance with the effluent limitations for metals will be conducted using the total recoverable method. For Chromium (VI), the dissolved method in conformance with 40 CFR 136 may be used to measure compliance with the Chromium (VI) limitation.
6. For effluent and ambient receiving water monitoring:
 - The facility will require its testing laboratory to calibrate the analytical system down to the minimum level (ML) as defined and specified in Attachment G of the Order for pollutants with effluent limitations (in the Order), unless an alternative minimum level is approved by the Regional Water Board's Executive Officer. When there is more than one ML value for a given substance, the facility will require the laboratory to use the ML values, and their associated analytical methods, listed in Attachment G of the Order that are below the calculated effluent limitation. The facility understands that it may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the lowest ML value, and its associated analytical method listed in Attachment G will be used. Any internal quality control data associated with the sample will be reported when requested by the Executive Officer. The facility understands that the Regional Water Board will reject the quantified laboratory data if quality control data are unavailable or unacceptable.
 - The facility will require the laboratory to report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols (and will, in turn, report using the following protocols, results on any submitted reports to the Regional Water Board):
 - a) Sample results greater than or equal to the reported ML will be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
 - b) Sample results less than the reported ML, but greater than or equal to the laboratory's current Method Detection Limit (MDL) as defined in Attachment E of the Order, will be reported as "Detected, but Not Quantified," or "DNQ." The estimated chemical concentration of the sample will also be reported.
 - c) Sample results not detected above the laboratory's MDL will be reported as "not detected" or "ND."

7. In reporting priority pollutants as per the Order, the facility will follow the chemical nomenclature and sequential order of constituents shown in Table B of the Ocean Plan, and will report with each sample result:
 - The reporting level achieved by the testing laboratory; and
 - The laboratory's current MDL, as determined by the procedure found in 40 CFR 136 (revised as of May 14, 1999).
8. For receiving water monitoring and for those pollutants without effluent limitations, the facility will require its testing laboratory to quantify constituent concentrations to the lowest achievable MDL as determined by the procedure found in 40 CFR 136 (revised as of May 14, 1999). In situations where the most stringent applicable receiving water objective, as specified for that pollutant in Table B of the Ocean Plan is below the minimum level value specified in Attachment G of the Order and the laboratory cannot achieve an MDL value for that pollutant below the ML value, the laboratory will be requested to provide the facility with (and the facility will submit) justification why a lower MDL value cannot be achieved. Justification will be submitted together with monthly monitoring reports.
9. All analytical data will be reported with identification of practical quantitation levels and with method detection limits, as determined by the procedure found in 40 CFR 136 (revised as of May 14, 1999).
10. The facility will require its commercial testing laboratory to have and implement an acceptable written quality assurance (QA) plan for laboratory analyses. Duplicate chemical analyses will be conducted on a minimum of ten percent (10%) of the samples, or at least one sample per month, whichever is greater. A similar frequency will be maintained for analyzing spiked samples. When requested by the Regional Water Board or EPA, the facility (through its contract laboratory) will participate in the NPDES discharge monitoring report QA performance study.

II. SAMPLING PROVISIONS

Overview

The facility will perform all in-plant, plant effluent and in-plant outfall sampling using facility personnel and sample bottles/containers provided by the contract laboratory for the required parameters (already containing the required preservative). Ocean monitoring will be performed by a qualified sampling contractor.

As noted above, all samples collected by facility personnel will be labeled and shipped to the commercial laboratory using a written Chain Of Custody form. The Chain Of Custody form will be completely filled out and signed by the person conducting the sampling at the time the samples are collected. Additional signatures may be required as part of the sample transport process. Samples will be refrigerated at the facility or packed in ice (or 'blue ice' or equivalent), as required, immediately following collection and during transport to the laboratory.

The facility or its contractor will sample at the locations specified in Attachment E of the Order at the required frequency as summarized below:

Summary Sampling Locations and Frequency: By Location

Monitoring Location Name¹	Description	Sampling Frequency²
M-INFA	Cooling water intake well from ocean for flow and temperature monitoring	<ul style="list-style-type: none">▪ Continuous<ul style="list-style-type: none">○ Flow▪ Every two hours<ul style="list-style-type: none">○ Temperature
M-INFB	Intake structure of cooling water from ocean for marine life impingement and entrainment monitoring	<ul style="list-style-type: none">▪ During heat treatments<ul style="list-style-type: none">○ Marine life impingement and entrainment monitoring▪ Monthly<ul style="list-style-type: none">○ Marine life impingement and entrainment monitoring

¹ See Water Flow Schematic on following page.

² Specific parameters vary by frequency

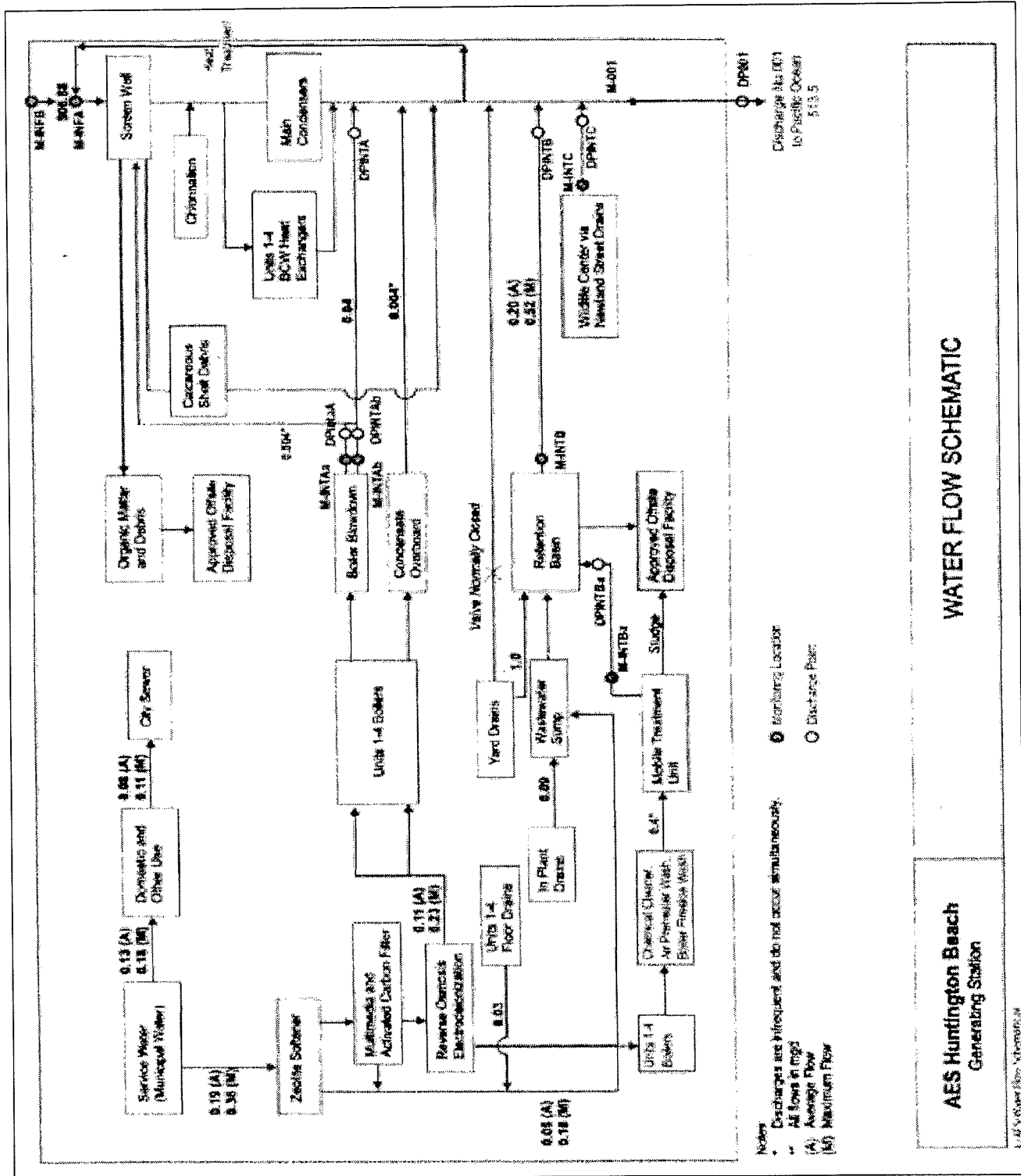
Summary Sampling Locations and Frequency: By Location

Monitoring Location Name¹	Description	Sampling Frequency²
M-001	Outfall discharge to ocean	<ul style="list-style-type: none"> ▪ Continuous <ul style="list-style-type: none"> ○ Flow & temperature ▪ Daily <ul style="list-style-type: none"> ○ Total residual chlorine ▪ Weekly <ul style="list-style-type: none"> ○ pH ▪ Monthly <ul style="list-style-type: none"> ○ Oil & grease, TSS, bacteria ○ Chronic toxicity ▪ Quarterly <ul style="list-style-type: none"> ○ Metals and others ▪ Annual <ul style="list-style-type: none"> ○ Organics and others
M-INTA	In-plant monitoring wastes from boiler blowdown processing—internal monitoring point prior to discharge to DP 001	<ul style="list-style-type: none"> ▪ Continuous <ul style="list-style-type: none"> ○ Flow
M-INTB	In-plant monitoring wastes from Retention Basin —internal monitoring point prior to discharge to DP 001	<ul style="list-style-type: none"> ▪ Monthly <ul style="list-style-type: none"> ○ Flow, pH, oil & grease, TSS, metals, phenolics, bacteria
M-INTBa	In-plant monitoring wastes from chemical and non-chemical metal cleaning wastes—internal monitoring point prior to discharge to DP ITNB	<ul style="list-style-type: none"> ▪ During metal cleaning waste discharge³ <ul style="list-style-type: none"> ○ Flow, pH, oil & grease, TSS, metals, phenolics
Ocean monitoring stations (specified in Attachment H of Order No. R8-2006-0011)	Ocean water as Receiving Water	<ul style="list-style-type: none"> ▪ Annually <ul style="list-style-type: none"> ○ Temperature, pH, dissolved oxygen, other parameters ○ Macroscopic benthic biota and sediment chemistry ○ Demersal fish and macroinvertebrates ○ General observations ○ Bacterial characteristics and natural light penetration

³ The facility no longer performs metal cleaning operations which discharge to the waste water system.

Summary Sampling Frequency and Locations: By Frequency

Sampling Frequency	Monitoring Location Name	Description	Parameters
Continuous	M-INFA	Cooling water intake well from ocean for flow and temperature monitoring	<ul style="list-style-type: none"> ▪ Flow ▪ Temperature
	M-001	Outfall discharge to ocean	<ul style="list-style-type: none"> ▪ Flow ▪ Temperature
	M-INTA	In-plant monitoring wastes from boiler blowdown processing	<ul style="list-style-type: none"> ▪ Flow
Daily	M-001	Outfall discharge to ocean	<ul style="list-style-type: none"> ▪ Total residual chlorine
Weekly	M-001	Outfall discharge to ocean	<ul style="list-style-type: none"> ▪ pH
Monthly	M-001	Outfall discharge to ocean	<ul style="list-style-type: none"> ▪ Oil & grease, TSS, bacteria ▪ Chronic toxicity
	M-INTB	In-plant monitoring wastes from Retention Basin —internal monitoring point prior to discharge to DP 001	<ul style="list-style-type: none"> ▪ Flow, pH, oil & grease, TSS, metals, phenolics, bacteria
Monthly (and during heat treatments)	M-INFB	Intake structure of cooling water from ocean	<ul style="list-style-type: none"> ▪ Marine life impingement and entrainment monitoring
Quarterly	M-001	Outfall discharge to ocean	<ul style="list-style-type: none"> ▪ Metals and others
Annual	M-001	Outfall discharge to ocean	<ul style="list-style-type: none"> ▪ Organics and others
Annual	Ocean monitoring stations	Ocean water as Receiving Water	<ul style="list-style-type: none"> ▪ Temperature, pH, dissolved oxygen, other parameters ▪ Macroscopic benthic biota and sediment chemistry ▪ Demersal fish and macroinvertebrates ▪ General observations ▪ Bacterial characteristics and natural light penetration



General Sampling Advisory/Instruction for Facility Personnel

Prior to Sampling

Sample bottles provided by the laboratory may contain various sample preservatives. Therefore, sample bottles must remain closed until the sample is collected and transferred to the bottle/container. Sample bottles/containers can NOT be rinsed before use. The sample bottles for total organic carbon, metals, and oil and grease contain a small amount (approximately 2 mL) of concentrated mineral acid.

During Sampling

All sample bottles should be handled carefully – particularly those with preservative. To avoid sample contamination and ensure personal protection, clean latex or nitrile rubber gloves must be worn during sample collection. Safety glasses or goggles must also be worn. Care should be taken and sample preservatives (e.g. acid) should NOT be allowed to contact skin or eyes. **If acid does contact skin or eyes, the area should be flushed with large amounts of water for at least fifteen minutes. If the contact involves eyes, medical attention should be sought.**

When transferring the collected sample (from the grab sampling scoop, cup, dip sampler or other collector, etc.), the sample bottle/container should be carefully filled completely to the top and then tightly capped. The container label should be neatly completed immediately upon container filling and capping. A fine point Sharpie (or similar permanent legible marker) should be used. Information to be written on the label includes:

- Sample identification: location and a number/letter unique for each container used at that specific sampling location (e.g.: M-001-A, M-001-B, M-INTA-1, M-INTA-2, etc.)
- Date and time of sampling
- Name of person collecting the sample
- Sampling frequency for the current round of sampling (weekly, monthly, quarterly, etc.)

After Sampling

Upon completion of collecting, capping and labeling of the sample containers from a particular location, the containers should be transferred without delay either into the sample holding refrigerator in the warehouse, or placed into an ice chest with ice or other chilling material. If placed into ice, the sample containers should first be placed inside a plastic bag to protect the written label.

The person collecting the sample must also immediately complete and sign the Chain of Custody form(s)⁴ making sure the type of container indicated on the form matches the sample identification number from the specific container.

⁴ For quarterly and annual sampling, due to the number of parameters to be analyzed, more than one Chain of Custody form may be required.

Sampling Types

For effluent and in-plant sampling, as indicated on the tables in the next section, several types of sample collections are required:

GRAB SAMPLE

A grab sample is defined as any individual sample collected in less than 15 minutes.

COMPOSITE SAMPLE

A composite sample is defined as a combination of no fewer than eight individual grab samples obtained over the specified sampling period (e.g. 24-hour composite; 12-hour composite, etc.). The volume of each individual grab sample must be proportional to the discharge flow rate at the time of sampling. The compositing period must equal the specific sampling period, or 24 hours, if no period is specified.

24 HOUR COMPOSITE

24-hour composite samples must be collected continuously during a 24-hour operation of the facility

III. SUMMARY SAMPLING REQUIREMENTS BY LOCATION

General Requirements for Continuous Monitoring

Calibrations:

For parameters that require continuous monitoring, the facility will assure that monitoring instruments and devices used to fulfill the prescribed monitoring requirements are properly maintained and calibrated as necessary to ensure their continued accuracy.

The flow measurement will be calibrated at least annually (or more frequently if necessary to ensure continued accuracy).

The pH meter Used for on site pH determination) must be calibrated prior to each use per the directions of the meter being used.

Out of Service Monitoring Equipment and Required Alternate Monitoring:

In the event that continuous monitoring equipment is out of service for greater than a 24-hour period, the facility will obtain a representative grab sample each day the equipment is out of service. The facility will correct the cause(s) of failure of the continuous monitoring equipment as soon as practicable.

In its monitoring report, the facility will specify the period(s) during which the equipment was out of service and if the problem has not been corrected, will identify the steps which the facility is taking or proposes to take to bring the equipment back into service and the schedule for these actions.

Sampling Periods

- Daily samples must be collected on each day of the week.
- Weekly samples must be collected on any representative day during the Sunday to Saturday week.
- Monthly samples must be collected on any representative day of each month.
- Quarterly samples must be collected by any representative day of January, April, July, and October.
- Annual samples must be collected in accordance with the following schedule:

Year	Annual Sampling Month
2006	October
2007	January
2008	April
2009	July
2010	October
2011	January

Additional details regarding specific sampling periods are detailed below:

Sampling Frequency	Monitoring Period	Self Monitoring Report (SMR) Due Date
Continuous	All	Submit with monthly SMR
Daily	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
Weekly	Sunday through Saturday	Submit with monthly SMR
Monthly	1 st day of calendar month through last day of calendar month	30 days from the end of the monitoring period, submit as monthly SMR
Quarterly	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	30 days from the end of the monitoring period, submit with monthly SMR, in May 1; August 1; November 1, February 1
Semiannually	January 1 through June 30 July 1 through December 31	30 days from the end of the monitoring period, submit with monthly SMR
Annually	January 1 through December 31	30 days from the end of the monitoring period, submit with monthly SMR in August 1

INFLUENT MONITORING

MONITORING AT M-INFA (Cooling Water Intake) – CONTINUOUS

Parameter	Units	Sample type	Minimum Sampling Frequency
Flow (avg & max daily)	Mgd	Pump record	Continuous
Temperature (Avg, max & min daily)	°F	Meter	Once every two hours

MONITORING AT M-INFB (Cooling Water Intake) – MONTHLY & DURING HEAT TREATMENTS

Parameter	Minimum Sampling Frequency
Marine life impingement and entrainment	See Appendix A for Proposed Marine Life Impingement and Entrainment
	During heat treatment Monthly

EFFLUENT MONITORING

MONITORING AT M-001 (Ocean Outfall) – CONTINUOUS OR DAILY

Parameter	Units	Sample type	Minimum Sampling Frequency
Flow (avg & max daily)	Mgd	Pump record	Continuous
Temperature (Avg, max & min daily)	°F	Meter	Continuous
Total Residual Chlorine	µg/L	Grab	Daily NOTE: Monitoring for Total Residual Chlorine is to be done for all days that chlorine <u>is</u> added to the boiler water. No sampling is required for days where chlorine is not added to the boiler water.

MONITORING AT M-001 (Ocean Outfall) – WEEKLY

All sampling for the Weekly M-001 Outfall monitoring & analysis requirement will be performed by using Grab samples (and on site determination of pH. Weekly samples can be collected on any representative day during the Sunday to Saturday week.

Parameter	Units	Sample type	Minimum Sampling Frequency
pH	pH units	Grab	Weekly

Note regarding pH sampling:

- The pH analysis is to be done at the facility by facility personnel using grab samples and the procedures outlined for determining pH by on-site pH meter.
- The pH meter must be calibrated prior to each use per the directions of the meter being used.

MONITORING AT M-001 (Ocean Outfall) – MONTHLY

All sampling for the Monthly M-001 Outfall monitoring & analysis requirement will be performed by using Grab samples. Monthly samples can be collected on any representative day of each month.

Parameter	Units	Sample type	Minimum Sampling Frequency
Total Coliform	Density	Grab	Monthly
Fecal Coliform	Density	Grab	Monthly
Enterococcus	Density	Grab	Monthly
Oil & Grease	mg/L	Grab	Monthly
Total Suspended Solids	mg/L	Grab	Monthly

MONITORING AT M-001 (Ocean Outfall) – MONTHLY WITH 27 MONTH CYCLE

The facility will sample and perform chronic toxicity tests as follows:

Month	Marine Sensitivity Test	Start Period	End Period
1 - 3	all three species	October 2006	December 2006
4-27	most sensitive species of the three	January 2007	January 2009

Note that a 27-month period is used so that the three month testing period rotates throughout the year over time.

Marine Sensitivity Test

For the first three months of each successive 27-month period, the facility will conduct monthly chronic toxicity test screening with a marine vertebrate species, a marine invertebrate species, and a marine alga species.

For the remaining 24 months of each 27-month period, the facility will conduct the monthly chronic toxicity test using only the most sensitive of the three species used in the first three months. The first screening will be conducted at the start of plant operation. If the most sensitive test species is/are not available during the testing period, the presence of chronic toxicity will be estimated using the second most sensitive test species from the toxicity test screening conducted for the current 24-month period. Such changes will be noted on the discharge monitoring report (DMR).

The facility will conduct monthly chronic toxicity tests on grab effluent samples mixed with ambient seawater in a ratio of 1 to 7.5. The presence of chronic toxicity will be estimated as specified in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Test Organisms specified in Table III-1 of the Ocean Plan will be used in conducting the tests. If test organisms specified in the West Coast chronic test methods manual are not available, the presence of chronic toxicity shall be estimated as specified in *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms* (EPA 821-R-02-014, 2002).

Additional details of the facility's proposed chronic toxicity sampling and testing is contained in Appendix B.

MONITORING AT M-001 (Ocean Outfall) – QUARTERLY

All sampling for the Quarterly M-001 Outfall monitoring & analysis requirement will be performed by using Grab samples. Quarterly samples can be collected on any representative day of January, April, July and October.

Parameter	Units	Sample type	Minimum Sampling Frequency
Arsenic	µg/L	Grab	Quarterly
Cadmium	µg/L	Grab	Quarterly
Chromium (VI) ⁵	µg/L	Grab	Quarterly
Copper	µg/L	Grab	Quarterly
Lead	µg/L	Grab	Quarterly
Mercury	µg/L	Grab	Quarterly
Nickel	µg/L	Grab	Quarterly
Selenium	µg/L	Grab	Quarterly
Silver	µg/L	Grab	Quarterly
Zinc	µg/L	Grab	Quarterly
Cyanide ⁶	µg/L	Grab	Quarterly
Ammonia	mg/L	Grab	Quarterly
Non-Chlorinated Phenolic Compounds	µg/L	Grab	Quarterly
Chlorinated Phenolic Compounds	µg/L	Grab	Quarterly
Endosulfan	µg/L	Grab	Quarterly
Endrin	µg/L	Grab	Quarterly
HCH	µg/L	Grab	Quarterly

⁵ This effluent limitation may be met as a total chromium limitation.

⁶ If the facility can demonstrate to the satisfaction of the Regional Water Board (subject to U.S. EPA approval) that an analytical method is available to reliably distinguish between strongly and weakly complexed cyanide, effluent limitations for cyanide may be met by the combined measurement of free cyanide, simple alkali metal cyanides, and weakly complexed organometallic cyanide complexes. In order for the analytical method to be acceptable, the recovery of free cyanide from metal complexes must be comparable to that achieved by the approved method in 40 CFR Part 136, as revised May 14, 1999.

MONITORING AT M-001 (Ocean Outfall) – ANNUALLY

All sampling for the Annual M-001 Outfall monitoring & analysis requirement will be performed by using Grab samples. Annual samples can be collected on any representative day of the indicated month for the specific sampling year as follows:

Year	Annual Sampling Month
2006	October
2007	January
2008	April
2009	July
2010	October
2011	January

Increased Frequency Upon Pollutant Concentration Exceedance

The monitoring frequency for those pollutants that are detected during the required annual monitoring at a concentration greater than those shown in Attachment K of Order No. R8-2006-0011 will be accelerated to monthly. If two successive accelerated monitoring results do not indicate presence of the specific parameter at a concentration greater than applicable receiving water objectives as specified for that pollutant in the Ocean Plan, the facility will return back to the regular (annual) monitoring frequency.

However, if two successive accelerated monitoring results show concentrations of a parameter above the objectives, the facility will conduct/implement a pollutant minimization program and submit a report describing the measures undertaken by the facility to prevent the discharge of such pollutant parameter at levels of concern.

AES HUNTINGTON BEACH, LLC
EFFLUENT MONITORING PROGRAM
To assure conformance with
Attachment E of Order No. R8-2006-0011
Effective 14 October 2006

Parameter	Units	Sample type	Minimum Sampling Frequency
acrolein	µg/L	Grab	Annually
antimony	µg/L	Grab	Annually
bis(2-chloroethoxy) methane	µg/L	Grab	Annually
bis(2-chloroisopropyl) ether	µg/L	Grab	Annually
chlorobenzene	µg/L	Grab	Annually
chromium (III)	µg/L	Grab	Annually
di-n-butyl phthalate	µg/L	Grab	Annually
dichlorobenzenes*	µg/L	Grab	Annually
diethyl phthalate	µg/L	Grab	Annually
dimethyl phthalate	µg/L	Grab	Annually
4,6-dinitro-2-methylphenol	µg/L	Grab	Annually
2,4-dinitrophenol	mg/L	Grab	Annually
ethylbenzene	µg/L	Grab	Annually
Fluoranthene	µg/L	Grab	Annually
hexachlorocyclopentadiene	µg/L	Grab	Annually
nitrobenzene	µg/L	Grab	Annually
thallium	µg/L	Grab	Annually
toluene	µg/L	Grab	Annually
tributyltin	µg/L	Grab	Annually
1,1,1-trichloroethane	µg/L	Grab	Annually
acrylonitrile	µg/L	Grab	Annually
Aldrin	µg/L	Grab	Annually
benzene	µg/L	Grab	Annually
benzidine	µg/L	Grab	Annually
beryllium	µg/L	Grab	Annually

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Parameter	Units	Sample type	Minimum Sampling Frequency
bis(2-chloroethyl) ether	µg/L	Grab	Annually
bis(2-ethylhexyl) phthalate	µg/L	Grab	Annually
carbon tetrachloride	µg/L	Grab	Annually
chlordanes*	mg/L	Grab	Annually
chlorodibromomethane	µg/L	Grab	Annually
chloroform	µg/L	Grab	Annually
DDT*	µg/L	Grab	Annually
1,4-dichlorobenzene	µg/L	Grab	Annually
3,3'-dichlorobenzidine	µg/L	Grab	Annually
1,2-dichloroethane	µg/L	Grab	Annually
dichlorobromomethane	µg/L	Grab	Annually
dichloromethane	µg/L	Grab	Annually
1,3-dichloropropene	µg/L	Grab	Annually
Dieldrin	µg/L	Grab	Annually
2,4-dinitrotoluene	µg/L	Grab	Annually
1,2-diphenylhydrazine	µg/L	Grab	Annually
halomethanes*	µg/L	Grab	Annually
Heptachlor	µg/L	Grab	Annually
heptachlor epoxide	µg/L	Grab	Annually
hexachlorobenzene	µg/L	Grab	Annually
hexachlorobutadiene	mg/L	Grab	Annually
hexachloroethane	µg/L	Grab	Annually
isophorone	µg/L	Grab	Annually
N-nitrosodimethylamine	µg/L	Grab	Annually
N-nitrosodi-N-propylamine	µg/L	Grab	Annually

Parameter	Units	Sample type	Minimum Sampling Frequency
N-nitrosodiphenylamine	µg/L	Grab	Annually
PAHs*	µg/L	Grab	Annually
PCBs*	µg/L	Grab	Annually
TCDD equivalents*	µg/L	Grab	Annually
1,1,2,2-tetrachloroethane	µg/L	Grab	Annually
tetrachloroethylene	µg/L	Grab	Annually
toxaphene	µg/L	Grab	Annually
trichloroethylene	µg/L	Grab	Annually
1,1,2-trichloroethane	µg/L	Grab	Annually
2,4,6-trichlorophenol	µg/L	Grab	Annually
vinyl chloride	µg/L	Grab	Annually

MONITORING AT M-INTA (In-Plant Wastes from Boiler Blowdown Prior to Outfall Discharge) – MONTHLY

Parameter	Units	Sample type	Minimum Sampling Frequency
Flow (avg & max daily)	Mgd	Pump record	Continuous

MONITORING AT M-INTB (In-Plant Wastes from Retention Basin to Outfall Discharge) – MONTHLY

All sampling for the Monthly M-INTB Retention Basin discharge monitoring & analysis requirement will be performed by using Grab samples. Monthly samples can be collected on any representative day of each month. Sampling and analysis is also required during the discharge of metal cleaning wastes (not currently conducted).

Parameter	Units	Sample type	Minimum Sampling Frequency
Flow (avg & max daily)	Mgd	Pump record	Continuous – but determined monthly
pH	pH unit	Grab	Monthly

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To assure conformance with
Attachment E of Order No. R8-2006-0011
Effective 14 October 2006

Parameter	Units	Sample type	Minimum Sampling Frequency
Total Suspended Solids	µg/L lbs/day	Grab	Monthly
Oil & Grease	µg/L lbs/day	Grab	Monthly
Arsenic	µg/L lbs/day	Grab	Monthly
Cadmium	µg/L lbs/day	Grab	Monthly
Chromium (VI)	µg/L lbs/day	Grab	Monthly
Copper	µg/L lbs/day	Grab	Monthly
Lead	µg/L lbs/day	Grab	Monthly
Mercury	µg/L lbs/day	Grab	Monthly
Nickel	µg/L lbs/day	Grab	Monthly
Selenium	µg/L lbs/day	Grab	Monthly
Silver	µg/L lbs/day	Grab	Monthly
Zinc	µg/L lbs/day	Grab	Monthly
Cyanide	µg/L lbs/day	Grab	Monthly
Ammonia	µg/L lbs/day	Grab	Monthly
Non-chlorinated phenolic compounds	µg/L lbs/day	Grab	Monthly
Chlorinated phenolics	µg/L lbs/day	Grab	Monthly
Endosulfan	µg/L lbs/day	Grab	Monthly
Endrin	µg/L lbs/day	Grab	Monthly
HCH	µg/L lbs/day	Grab	Monthly

Parameter	Units	Sample type	Minimum Sampling Frequency
Total Coliform	Density	Grab	Monthly
Fecal Coliform	Density	Grab	Monthly
Enterococcus	Density	Grab	Monthly

MONITORING AT M-INTB a (In-Plant Metal Cleaning Wastes Prior to Discharge to Retention Basin) – DURING CLEANING WASTE DISCHARGE

Metal cleaning operation is no longer being used at the facility. The mobile treatment unit has been removed and is no longer in operation.

OCEAN (OFFSHORE RECEIVING WATER) MONITORING

MONITORING AT OCEAN MONITORING STATIONS – ANNUALLY

As required in Section VIII 'Receiving Water Requirements – Ocean Water ' of Attachment E 'Monitoring and Reporting Program' of General Order No. R8-2006-0011, the following proposed sampling/monitoring plans are attached as the indicated Appendix:

- Appendix C: Macroscopic Benthic Biota and Sediment Chemistry
- Appendix D: Demersal Fish and Macroinvertebrates
- Appendix E: Receiving Water General Observations
- Appendix F: Bacterial Characteristics and Natural Light Penetration
- Appendix G: Receiving Water Quality

STORM WATER MONITORING

The procedures and frequencies of storm water monitoring and analysis is contained in the AES Huntington Beach, LLC Storm Water Monitoring Program maintained at the facility.

Appendix A

Proposed Marine Life Impingement and Entrainment

PROPOSED MARINE LIFE IMPINGEMENT AND ENTRAINMENT MONITORING IN COMPLIANCE WITH ORDER R8-2006-0011 FOR HUNTINGTON BEACH GENERATING STATION

The monitoring program described below shall commence on 14 October 2006. The following protocols are designed to support the monitoring requirements for marine life impingement and entrapment monitoring as described in Attachment E, Section III, B, which states:

"During heat treatments and for at least one continuous 24-hour period per month during normal operation, the following shall be obtained: Total weight and number of each species of fish and macroinvertebrate removed from the traveling bar racks and screens. Standard length and sex of select species in a representative sample removed from the traveling bar racks and screens. For fish length, where up to 125 individuals of a species are removed, the "representative sample" shall consist of all the individuals removed. Where more than 125 individuals of a species are removed, the "representative sample" shall consist of not less than 125 individuals. For determination of fish sex, the procedure shall be the same as for fish length, except the number of individuals shall be 50. Observations of any indication of stress, disease, or abnormalities (e.g., parasites, lesions, tumors, etc.) (shall be noted). A report containing detailed analysis of the previous calendar year's fish and macroinvertebrate impingement/entrainment monitoring data shall be submitted annually. Detailed analyses shall include community structure analyses, which consists of, but is not limited to, species richness, species diversity, species dominance, and similarity analyses using applicable statistical techniques. The report shall contain a narrative and graphical summary of all historical data with the goal of displaying long-term trends."

Annual marine life impingement and entrainment at Huntington Beach Generating Station will be monitored during all heat treatments and 12 monthly normal operation surveys (Appendix E, Section III, B). Fish and macroinvertebrates will be sorted from algae and debris and identified to the lowest practical taxonomic level. Up to 200 individuals will be measured to the nearest millimeter (mm) standard length (SL) or other appropriate length (disc width [DW] or total length [TL]), aggregate biomass (kg) recorded for measured and unmeasured individuals (if necessary), and sex of select species will be recorded. Total abundance for species with greater than 200 individuals will be estimated by dividing the total weight of the unmeasured individuals by the mean individual weight of the measured samples from within each species. Macroinvertebrates will be counted and an aggregate weight taken. California spiny lobster (*Panulirus interruptus*) will be counted, measured to the nearest mm carapace length (CL), sexed, and an aggregate weight recorded. Animals will be examined for indications of stress, disease, or other abnormalities. Specimens that are either rare or of uncertain identity will be retained for later confirmation and/or inclusion into the MBC voucher collection.

Each monthly normal operation survey will consist of a 24-hr survey. Each survey will begin with a clearing of the traveling screens. After 24-hrs, the screens will again be cleared and all accumulated material will be processed as described above.

Due to variation in daily operating patterns, all normal operation survey fish and macroinvertebrate data will be standardized to circulated water flow rates to determine the rate of impingement (catch per unit effort or CPUE) by the following equation: Impingement

Rate = (Abundance/Circulated Water Volume in Million Gallons) x 100. The impingement rate, derived from this equation, establishes the abundance per 100 million gallons of water circulated. Volume of water circulated is based on the water flow rate corresponding to the time period surveyed.

Summary statistics include total abundance and biomass (by species and cumulatively), species diversity, species richness, species dominance, and similarity analysis. Length frequency distributions for examined fishes will be derived by rounding (1 to 4 = 0, 5 to 9 = 10) the recorded length to the nearest ten mm of each measurement type (SL or DW). Abundance per size class will be plotted for those species with greater than 30 individual lengths available. Data will be included in the annual receiving water monitoring report and presented in graphical and tabular format with associated narrative analysis.

Appendix B

Proposed Chronic Toxicity Sampling Plan

PROPOSED SAMPLING PLAN FOR CHRONIC TOXICITY COMPLIANCE WITH ORDER R8-2006-0011 FOR HUNTINGTON BEACH GENERATING STATION

Chronic toxicity monitoring, as described by the following protocols shall commence October 2006. The protocols are consistent with the requirements detailed in Appendix E, Section V (A), which states:

"The Discharger shall conduct monthly chronic toxicity tests on grab effluent samples mixed with ambient seawater in a ratio of 1 to 7.5. The presence of chronic toxicity shall be estimated as specified in Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136, 1995). Test Organisms specified in Table III-1 of the Ocean Plan shall be used in conducting the tests. If test organisms specified in the West Coast chronic test methods manual are not available, the presence of chronic toxicity shall be estimated as specified in Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms (EPA 821-R-02-014, 2002).

For the first three months of each successive 27-month period, the Discharger shall conduct monthly chronic toxicity test screening with a marine vertebrate species, a marine invertebrate species, and a marine alga species. For the remaining 24 months of each 27-month period, the discharger shall conduct the monthly chronic toxicity test using only the most sensitive of the three species used in the first three months. The first screening shall be conducted at the start of plant operation. If the most sensitive test species is/are not available during the testing period, the presence of chronic toxicity shall be estimated using the second most sensitive test species from the toxicity test screening conducted for the current 24-month period. Such changes shall be noted on the discharge monitoring report (DMR). Note that a 27-month period is used so that the three month testing period rotates throughout the year over time."

Collection

A grab sample will be collected by MBC personnel monthly as per permit requirements, from the discharge vault at location M001. The sample will be collected using the facility's collection device and transferred into a CUBITAINER® (plastic jug). The sample will be transported on ice in a cooler. Once in laboratory after initial temperature and chlorine measurements have been taken the sample will be stored in a 4°C room until use, not to exceed 36 hours of holding from sample collection.

Monitoring

All chronic toxicity testing will be performed following the guidelines outlined in *Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136). The test concentrations will be as follows: 12.5%, 25%, 55%, 75%, and 100% for all test species. A control sample will also be tested. This is based on an IWC of 55 percent (a correction to permit listing an IWC of 0.55 percent for effluent). For the first three months of each 27-month cycle, chronic toxicity testing will be performed using *Haliotis rufescens*, *Macrocystis pyrifera*, and *Atherinops*

affinis as the test species. The most sensitive species will be determined after three months of testing, nine tests total with three tests per species listed. For the next 24 months the test species determined to be most sensitive will be used for monthly testing. Accelerated testing will be performed at any point when a test exceeds a TU_c of 8.5. Within two weeks of notifying the discharger of the failure the first sample will be collected for the first accelerated test. Every two weeks thereafter a sample will be collected for toxicity testing until two consecutive chronic toxicity results are 8.5 TU_c or less.

Reporting

All initial results will be sent to the discharger via fax, with a letter and a hardcopy report following.

Any TU_c of greater than 8.5 will be reported to the discharger in the form of a fax with in 24 hours of test completion. Test completion for *Haliotis rufescens* and *Macrocystis pyrifera* is defined when counts have been completed and for *Atherinops affinis* when final dry weights have been completed (these times will vary from the actual test termination time).

Appendix C

Macroscopic Benthic Biota and Sediment Chemistry Sampling Plan

PROPOSED SAMPLING PLAN FOR MACROSCOPIC BENTHIC BIOTA AND SEDIMENT CHEMISTRY IN COMPLIANCE WITH ORDER R8-2006-0011 FOR HUNTINGTON BEACH GENERATING STATION

The monitoring programs described below shall commence on 1 January 2007. This program is in support of Attachment E Section VIII, D, 2(a) which states:

"At Stations CUA, 1E, and 1G, a 3.3 ft X 4.95 Ft (1 m X 15 m) band shall be sampled by diver inspection. Record and report the species and frequency of all identifiable benthic macroscopic organisms within the sampling area."

Annual benthic macrofauna surveys will be conducted at Station CUA, 1E, and 1G as indicated in Appendix E, Section VIII,D,2(a) by biologist-divers. At each station biologist divers will inspect a 1 m X 15 m band transect. All observed species shall be recorded within each transect. All organisms will be identified to the lowest practical taxon in situ, whenever possible, while rare or organisms of questionable identification will be returned to the lab for confirmation and inclusion in the MBC voucher collection, when appropriate. Data will be presented in tabular and graphical format with appropriate summary statistics in addition to a narrative discussion. Summary statistics will include abundance and biomass, species diversity, and species richness.

The following protocol is in support of Attachment E Section VII, D, 1, which states:

"Chemical Monitoring: A sample of bottom sediments representing three separate grab samples be taken at Stations 1D, 1E, 1F, 1G, and CUA. At each station, the samples shall be analyzed for the total organic carbon, arsenic, cadmium, total chromium, copper, lead, mercury, nickel, silver, cyanide, phenolic compounds (non-chlorinated), ammonia-nitrogen, chlorinated phenolics, and PCBs."

Annual sediment chemistry monitoring samples will be collected concurrently to the benthic macrofauna surveys at Stations 1D, 1E, 1F, 1G, and CUA (Appendix E, Section VIII, D, 1). Three separate grab samples will be collected at each station. Sediment samples will be analyzed for total organic carbon, arsenic, cadmium, total chromium, copper, lead, mercury, nickel, silver, cyanide, phenolic compounds (non-chlorinated), ammonia-nitrogen, chlorinated phenolics, and PCBs.

Data for both monitoring efforts will be included in the annual receiving water monitoring report and presented in tabular and graphical form with an associated narrative discussion.

Appendix D

Demersal Fish and Macroinvertebrates Sampling Plan

PROPOSED SAMPLING PLAN FOR DEMERSAL FISH AND MACROINVERTEBRATES IN COMPLIANCE WITH ORDER R8-2006-0011 FOR HUNTINGTON BEACH GENERATING STATION

The monitoring program described below shall commence on 1 January 2007. The following protocols are designed to support the monitoring requirements for biological monitoring of fish and macroinvertebrates detailed in Appendix E Section VIII, D, 2(b), which state:

"1) Trawl net dimensions: 25-foot throat with (width), 1.5-inch mesh body, and 0.5 inch mesh liner. Two trawls shall be conducted at N1, N2, and N3; one in an upcoast direction and one in a downcoast direction. Each trawl shall be conducted for a duration of 10 minutes at a uniform speed of 2.0 to 2.5 knots along the same isobath and parallel to shore. 2) Identify all specimens and report the number and weights of total catch, and any external anomalies observed. Report standard length of important fish species."

Annual trawl surveys will be conducted to sample the demersal fish and macroinvertebrate communities at the three stations directly offshore of the Huntington Beach Generating Station (Stations N1, N2, and N3) (Appendix E, Table 8). One replicate tow will be made in both the upcoast and downcoast direction with the trawl path centered on the station. Stations will be located using global positioning system (GPS) coordinates (latitude and longitude). Environmental conditions, such as turbidity, bird life, presence/absence of red tide, etc. All six trawl paths are parallel to the shoreline. All tows will be made at each station with a 25-ft wide semi-balloon otter trawl net. The headrope was equipped with regularly spaced floats, while the footrope was weighted with chain and equipped with plastic rollers to reduce fouling. The body of the net consisted of 1.5-inch (in) bar mesh with a 0.5-in bar mesh liner in the cod end.

The net will be towed at 2.0 to 2.5 knots for ten minutes. Time is measured from the point at which the net begins fishing at the bottom to the time retrieval begins. Each catch is separated from debris and sorted to the lowest possible taxonomic category. Fishes are identified, up to 200 individuals will be measured to the nearest millimeter (mm) standard length (SL), [disc width (DW) or total length (TL) where appropriate], and examined for external parasites, anatomical anomalies, or other abnormalities. Aggregate weight, in kilograms (kg), will be recorded by species, divided between measured and unmeasured samples when appropriate. Species represented by less than 200 individuals will be enumerated, those in excess of 200 will be weighed with their abundance estimated based on the weight of the measured 200 by the following equation:

Estimated abundance = (Unmeasured Weight)/(Mean Weight of Measured Individuals).

Macroinvertebrates will be identified, counted, and aggregate weights recorded. In cases of high abundance (> 200 individuals), the total abundance is to be estimated in the same fashion as was used for fish.

Specimens will be returned to the sea after processing, except in cases of rare occurrence or uncertain identity. These individuals will be retained for later confirmation and inclusion in the MBC voucher collection, when appropriate.

Summary statistics include abundance, biomass, numbers of species, the Shannon-Wiener species diversity index (H' ; Shannon and Weaver 1962), and the Evenness index (J' ; Pielou 1977). Station catch parameters will be statistically analyzed with one-way analysis of variance (ANOVA), or the non-parametric Kruskal-Wallis analysis of variance in the event of non-normal data distribution at the $p = 0.05$ significance level.

Species length will be represented by length frequency histograms to examine potential age structure of the sampled assemblage for all species with greater than 30 individuals collected. Species-specific lengths were rounded to the nearest 10-mm bin, i.e. 35-44 mm SL = 40 mm SL bin.

Data will be included in the annual receiving water monitoring report and presented in a tabular and graphical fashion with an associated narrative discussion.

Appendix E

Receiving Water General Observations Sampling Plan

**PROPOSED SAMPLING PLAN FOR RECEIVING WATER GENERAL OBSERVATIONS
IN COMPLIANCE WITH ORDER R8-2006-0011 FOR HUNTINGTON BEACH
GENERATING STATION**

The receiving water monitoring program shall commence on 1 January 2007. In addition to sampling and analysis of the various specific tasks of the monitoring program, detailed general observations will be made consistent with the requirements for receiving water chemical, physical, and biological monitoring-as detailed in Appendix E Section VIII, C which states:

"The receiving water monitoring program shall consist of biological marine monitoring surveys of the area surrounding the discharge, and shall include studies of the bacterial, physical, chemical, and biological characteristics of the receiving waters which may be impacted by the discharge. The biological marine monitoring surveys conducted to meet receiving water monitoring requirements of the MRP shall include, as a minimum, the following information. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction swell or wave action, time of sampling, tide height, etc.). A description of sampling stations, including difference unique to each station (e.g., station location, sediment grain size, distribution of bottom sediments, rocks, shell litter, calcareous worm tubes, etc.). A description of the sample collection and preservation procedures used in the survey. A description of the specific method used for laboratory analysis. An in-depth discussion of the results of the survey. The discussion shall compare data from the reference station(s) with data from the stations located in the area of the discharge. All tabulations and computations shall be explained."

Within each annual monitoring report, a field operations section shall be included detailing the conditions (swell height and direction, wind speed and direction, tide height, presence/absence of floating debris or oli/gas, and discoloration of the sea surface). Each sampling station shall be described within each appropriate section, such as bottom topography and composition for macrobenthic invertebrate monitoring. Sampling procedures and analysis techniques for each aspect of the sampling program shall be described in each respective section of the annual report. Sampling results shall be discussed in reference to both the concurrently sampled reference stations as well as within a historic context.

Appendix F

Bacterial Characteristics and Natural Light Penetration Sampling Plan

PROPOSED SAMPLING PLAN FOR BACTERIAL CHARACTERISTICS AND NATURAL LIGHT PENETRATION IN COMPLIANCE WITH ORDER R8-2006-0011 FOR HUNTINGTON BEACH GENERATING STATION

The monitoring program described below shall commence on 1 January 2007. The following protocols are designed to support the monitoring requirements for biological monitoring of bacterial and light transmittance monitoring detailed in Order Section V, B, 1(a,b,) and 2(c), which state:

"Within a zone bounded by the shoreline and a distance of 1,000 feet from the shoreline or the 30-foot depth contour, whichever is further from the shoreline, and in areas outside this zone used for water contact sports, as determined by the Regional Water Board, but including all kelp beds, the following bacterial objectives shall be maintained throughout the water column.

30-day Geometric Mean- The following standards are based on the geometric mean of the five most recent samples from each site:

- a) Total coliform density shall not exceed 1,000 per 100 ml;*
- b) Fecal coliform density shall not exceed 200 per 100 ml; and*
- c) Enterococcus density shall not exceed 35 per 100 ml.*

Single Sample Maximum:

- a) Total coliform density shall not exceed 10,000 per 100 ml;*
- b) Fecal coliform density shall not exceed 400 per 100 ml;*
- c) Enterococcus density shall not exceed 104 per 100 ml, and*
- d) Total coliform density shall not exceed 1,000 per 100 ml when the fecal coliform/total coliform ratio exceeds 0.1.*

The "Initial Dilution Zone" of wastewater outfalls shall be excluded from designation as kelp beds for purposes of bacterial standards. Adventitious assemblages of kelp plants on waste discharge structures (e.g., outfall pipes and diffusers) do not constitute kelp beds for purposes of bacterial standards.

Shellfish Harvesting Standards: At all areas where shellfish may be harvested for human consumption, as determined by the Regional Water Board, the median total coliform density shall not exceed 70 per 100 ml throughout the water column, and not more than 10 percent of the samples shall exceed 230 per 100 ml.

Natural light shall not be significantly reduced at any point outside the initial dilution zone as the result of the discharge of waste."

Bacteria. Monitoring of coliform bacteria will be conducted during normal receiving water monitoring periods along the 30-ft isobath at receiving water monitoring transect stations 1A, 1C, 1G, and control stations detailed in Table 8 of Attachment E. At each bacteriological station, three seawater subsamples will be collected from three depths – (1) surface, (2) mid-water (one-half the total depth), and (3) 1-m from the bottom. Sampling will commence after the first daylight tidal peak. Collections will be made with a sterilized Van Dorn water sampler. Samples will be transferred to prelabelled, sterile jars and immediately

chilled with ice, and the period of time between sampling and performing the first analysis in the lab will not exceed 6 hours.

One additional sample will be collected from the discharge conduit at the same point as toxicity samples are collected within the plant to assess bacteria levels prior to ocean mixing. Samples will be collected in concert with offshore monitoring and will be handled in the same fashion as those collected offshore.

All samples will be analyzed using the Colilert™ 18-hr Quanti-Tray™ method (IDEXX Corp.) for enumeration of total coliforms and *E. coli*, and Enterolert™ for enumeration of enterococcus. Results will be included in the annual receiving water monitoring report and presented in tabular and graphical format with an associated narrative discussion.

Natural Light. The assessment of natural light penetration will be conducted simultaneous to receiving water quality profiling during normal receiving water monitoring periods along the 30-ft isobath at all transect stations and control stations detailed in Table 8 of Attachment E. A calibrated light transmissometer probe will be added to the Seabird Water Quality Monitoring System (SBE 9/17) normally used for receiving water quality monitoring. Light penetration will be measured at 1-meter increments between the surface and the seafloor. Results will be presented in the annual receiving water monitoring report in both tabular and graphical format with an associated narrative discussion.

Appendix G

Receiving Water Quality Sampling Plan

PROPOSED SAMPLING PLAN FOR RECEIVING WATER QUALITY IN COMPLIANCE WITH ORDER R8-2006-0011 FOR HUNTINGTON BEACH GENERATING STATION

The monitoring program described below shall commence on 1 January 2007. The following protocols are designed to support the monitoring requirements for biological monitoring of water quality as detailed in Appendix E Section VIII, D, 3, which states:

"The following program shall be performed to coincide with the chemical and biological monitoring, above: At each of the receiving water stations along Transects T1 and T2 and at CUA, dissolved oxygen concentration, temperature, and pH shall be determined at three-foot (1 m) intervals throughout the water column. The presence or absence of discoloration, floating particulates, and oil and grease shall be noted and reported for each receiving water station. Color photographs, with an indicator denoting scale, shall be taken of the receiving water whenever a discoloration or other unusual occurrence is present."

Annual water quality monitoring will be conducted at the ten transect and two control stations detailed in Appendix E Table 8. Water temperature (°C), dissolved oxygen (mg/l), and hydrogen ion concentration (pH) will be monitored during each survey at all stations in one-meter increments from the surface to the seafloor. Vertical column water quality profiles will be analyzed with a Sea-Bird® Water Quality Monitoring System (SBE 9/17 and/or 25) at each offshore station during each tidal sequence. The presence or absence of discoloration, floating particulates, and oil and grease will be noted and reported for each station. Additionally, color photographs, with an indicator denoting scale shall be taken of the receiving water whenever a discoloration or other unusual occurrence is present.

Data will be entered directly into MS Excel 2000, with which all data reductions will be performed. Water quality profiles will be constructed with SigmaPlot version 9 for Windows. False color images depicting sea surface temperature will be generated using an inverse-distance interpolation using TecPlot version 7.5 for Windows.

Data will be included in the annual receiving water monitoring report and presented in graphical and tabular format with associated narrative analysis.